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**United States Patent** [19]

Hertzmann et al.

[11] **Patent Number:** 6,011,536[45] **Date of Patent:** Jan. 4, 2000[54] **METHOD AND SYSTEM FOR GENERATING AN IMAGE HAVING A HAND-PAINTED APPEARANCE**[75] **Inventors:** Aaron P. Hertzmann; Kenneth Perlin, both of New York, N.Y.[73] **Assignee:** New York University, New York, N.Y.[21] **Appl. No.:** 09/083,401[22] **Filed:** May 22, 1998**Related U.S. Application Data**

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[51] **Int. Cl.<sup>7</sup>** ..... G09G 5/00[52] **U.S. Cl.** ..... 345/112; 345/156[58] **Field of Search** ..... 345/112, 156, 345/419, 431[56] **References Cited****U.S. PATENT DOCUMENTS**

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**Primary Examiner**—Richard A. Hjerpe  
**Assistant Examiner**—Ronald Laneau  
**Attorney, Agent, or Firm**—Kenyon & Kenyon

[57] **ABSTRACT**

A method and system receives a digital source image and brush size data. The source image is blurred to generate a digital reference image. The brush size data includes a first record corresponding to a first size of a brush and a second record corresponding to a second size of the brush. The first size is different from the second size. The method and system applies brush strokes, with the first record to be used for the brush, to a digital canvas image using the reference image. Then the brush strokes are applied, with the second record to be used for the brush, to the canvas image using the reference and working images. Thus, a final digital image having a hand-painted appearance is generated on the canvas image. Long curved brush strokes can also be used to generate the target image, which is aligned in a normal direction to image gradients. Furthermore the graphic artist may adjust parameters of the method and system according to the present invention to vary the style of painting.

28 Claims, 10 Drawing Sheets

